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UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

HOMEMAKERS' CHAT March 8, 1940

(FOR BROADCAST USE ONLY)

SUBJECT: "FOOD AS A SOURCE OF ENERGY." Information from the Bureau of Home Economics, U. S. Department of Agriculture.

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I wonder how many of you remember when we first started talking about diets--nutrition--and food values. In those days there wasn't much said about the vitamins and minerals that are considered so important today--but most folks did know quite a bit about calories.

In fact, the period of diet-consciousness really began when it became general knowledge that the calorie was the unit of measure--used to determine the amount of energy that a given food may yield. This story of how the human body changes food into energy is really fascinating. And here's how the Federal Bureau of Home Economics explains it...

"In trying to understand how we get energy from food--it's easiest to think of the body as a machine. You've seen a freight train chugging along the tracks--so you have some idea of how the engine works. You know there's a fire kept burning inside the engine to heat water and make steam. And as this steam expands--it pushes with a powerful force...force that drives the pistons and makes the wheels turn--so the engine can pull its load of cars.

"And strangely enough, the human body can do much the same thing. It's fuel is food--not coal. But this food is actually burned inside your body. Of course, there's no flame or smoke--but the fire produces heat. Part of this heat is used to keep the body warm, and part of it is created into work energy.

"A lumberman needs this energy to make his muscles work--for chopping down trees--hauling logs--and all the other jobs he does. And even young Bobby needs

this energy so his muscles can pull his toy wagon along the street. In other words, the energy from the food is used to perform work.

"But it's a little harder to understand that the same energy is also needed for the work of the muscles that we seldom think about inside the body--such as the heart and stomach muscles. Even the lungs--the liver--and the kidneys--as well as the tiny glands and very small organs need food energy to function properly.

"Naturally it will take more fuel to keep up the inside functions of a large man than of a little boy. But children need more energy foods--in proportion to their size--than grown-ups. Children need energy to grow--as well as for all the other functions. And boys and girls are often far more active and use more work and play energy than their parents."

So don't worry if the youngsters seem to be eating more "than their father." They play hard before and after school and during recesses. And besides that, they're growing fast.

"One surprising thing about our bodies--is the fact that they thriftily store up lots of the surplus energy as fat. For children this is a good thing. As long as they're growing--it's good health insurance for them to be a few pounds overweight. They're at a critical and formative period in their lives. So if they starve their bodies--they're very likely to undermine their health.

"But for grown folks--surplus fat may accumulate as too many extra pounds. And these extra pounds may become bothersome and may even be dangerous to health.

"Now let's see where we get this food energy. There are three sources... First, the carbohydrates--which include both the sugars and the starches. Then there are the fats and the proteins. If we have the same amount of carbohydrates and proteins (that is, the same weight of these foods)--we'll get the same amount of energy when they're burned. But if we take the same weight of fats--we'll get twice as much energy.

"It also takes longer for us to digest and burn the fats inside our bodies. So fats have a sort of "staying power"--that keeps us from feeling hungry too soon after a meal."

So ends the story of food as a source of energy--and calories as a measure of that energy. But the nutritionists in the Bureau of Home Economics caution us about overestimating the calorie as the measure of the total value of a food. They say that it's important to remember that the number of calories gives no clue to the amount of building materials and regulators in the food.

So if your Bobby seems thinner than his playmates--of the same height and age--you'd better consult a doctor to find out how to help the child gain weight. Or, if there's somebody in the family that seems to be putting on too many extra pounds--it will be best to have a doctor advise about reducing.

But even if you don't have any underweight or over weight problems in your family--it's still important to know how foods are changed into energy by the human body. But we must remember that energy is only part of the story of how the body makes use of food. But in the weeks to come we'll be talking about some of the other points that we need to know about--in getting a well-balanced diet.

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